Engineered Biosystems Building
Georgia Institute of Technology
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Learning Spaces Collaboratory Roundtable
Spring 2016: Focusing on the Future of Planning Learning Spaces
Loyola Marymount University

Driving Questions

1. Collaborative environments are as much a result of a collaborative programming and design process as they are the architectural response.

2. How do we better integrate our clients and their community into the design process?

3. How do we find synergies in program and systems to balance building efficiency with the growing need for communal/collaborative space?

4. How do we create communal campus activity at the ground floor of building and program types that require increasing amounts of security?

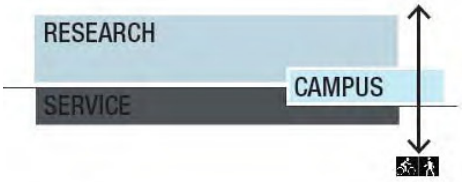
5. How do our projects contribute to the evolution of university programming by challenging traditional paradigms without alienating building users?

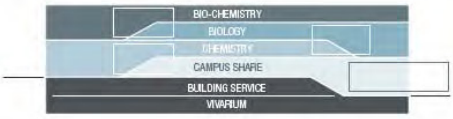
6. How does our connection to the natural environment inform programming needs and adjacencies?

The Georgia Institute of Technology's new Engineered Biosystems Building (EBB) is a six-story, 218,000-square-foot research facility. The design for EBB reconceptualizes laboratory design, creating an interdisciplinary environment that supports the acceleration of advanced research development. EBB brings together chemists, engineers, biologists and computational scientists to foster interdisciplinary collaboration in research neighborhoods designed around targeted focuses. Encouraging active engagement and collaboration amongst researchers of varying disciplines was a core driver in the research facility's design.

Challenging the traditional laboratory design, typically composed of small silos of individual research teams, EBB creates a system of open-lab neighborhoods that foster engagement. The building is organized into a series of layers which include research and research support labs, a linear equipment corridor, open graduate student offices, closed post-doctoral offices, collaboration and teaching spaces, and a researcher office wing. Open office clusters are situated with a direct line of sight for research assistants to see into the lab from their write-up area.

EBB's interactive and open-lab environment is enhanced by transparency and an ease of collaboration that extends to two-story break-area spaces which bookend the building on alternating floors. This design move ultimately encourages those who have breakrooms on their own floor to move not only laterally, but also vertically throughout the building. This circulation pattern allows for serendipitous interdisciplinary interactions which may not otherwise occur if researchers had all amenities in their home neighborhood. Spaces that require privacy remain in thoughtful proximity to the lab neighborhoods, and where needed, glass partitions interrupt open space to provide privacy between the graduate student offices and open-lab spaces. The building café creates an additional place for researchers to gather and congregate amongst each other and with researchers from neighboring buildings.

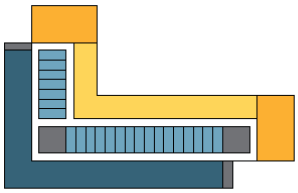


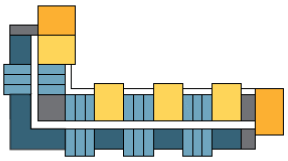


COMMUNITY
Create a living room that connects the research community with the campus community at a major pedestrian entry into campus.

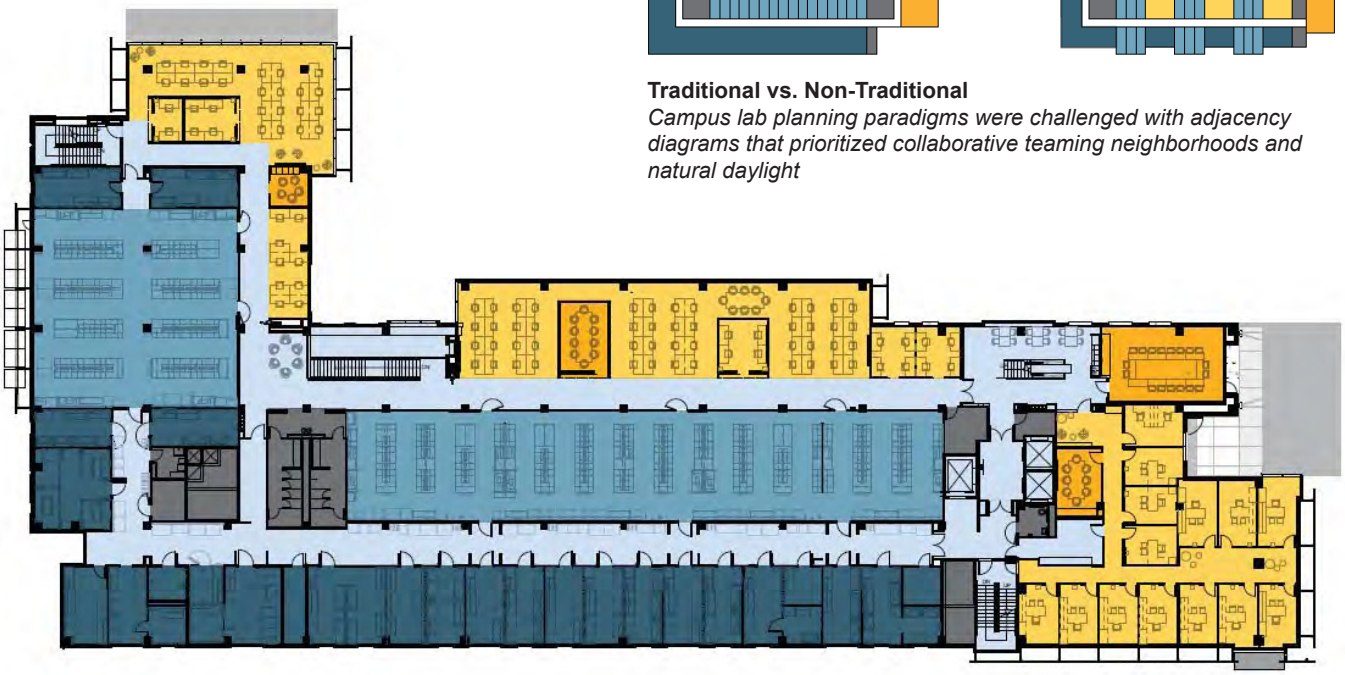
RESEARCH NEIGHBORHOODS
The building is an collaborative network in which shared communal spaces and visual connectivity enable interaction between experts in a wide range of studies.

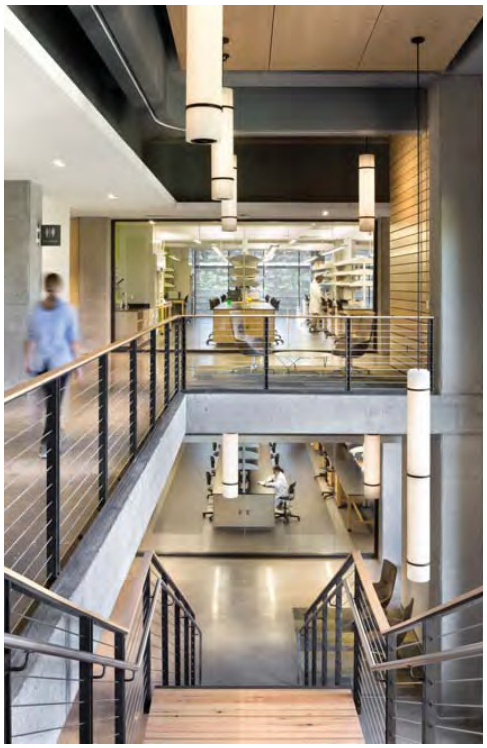
SECTIONAL CONNECTIVITY
Two story communal break rooms, stairs, and breakout spaces are distibuted through the building to encourage interaction between levels. Quality daylight, warm tactile materials, circulation, and loung furniture activate the space.



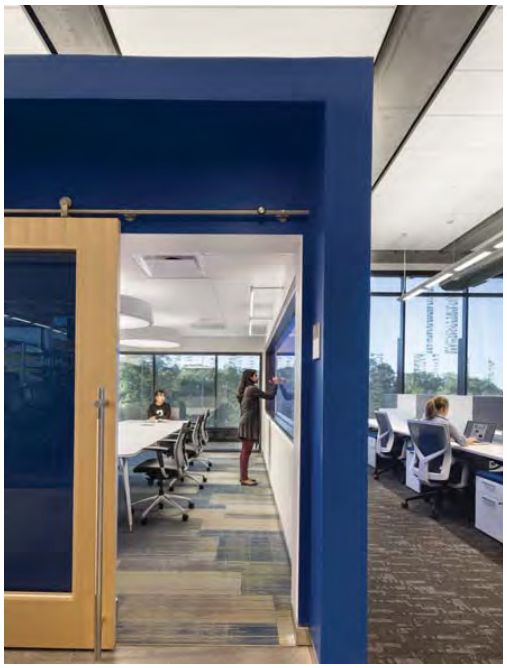


Traditional vs. Non-Traditional
Campus lab planning paradigms were challenged with adjacency diagrams that prioritized collaborative teaming neighborhoods and natural daylight





Even with a single loaded narrow footprintm, EBB was able to maintain a 63% building efficiency by rightsizing and leveraging assignable breakout space to create two story living rooms at the intersection of programatic neighborhoods and vertical circulation. These spaces benefit from an increased emphasis on materiality, volume, daylight, lighting, vending, and furnishings to become neighborhood amenities that are both visually and physically connected to the environment.



Visual connectivity is a key attribute of the collaborative environment and was a focus of the design team. We alsowanted the users to have a view to the exterior no matter what space they were using throughout the day (Desk, Lab, Lab Support). Providing enclosed shared work space created magnets for activity while also managing neihgborhood scales so that they begin to have individual identities.